IMCO

Power. Precision. Performance.

PERFORMANCE TO THE SIXTH POWER.

OMEGA-6® END MILLS

M7 SERIES

FRACTIONAL AND METRIC CATALOG

Higher engagement. Higher performance. Higher finish.

Hard core for hard work.

Omega-6® – the purpose-driven end mill for machining in hard metal applications where other end mills falter. Designed specifically for hardened materials up to 58-62 HRC, but also an excellent finisher in most ferrous materials.

IMCO

Power. Precision. Performance.

CONTENTS:

M725/M726: High performance to the sixth power!

Hard core for hard work.

Get exceptional tool life milling in hardened steels with Omega-6 M725/M726 end mills.

- **5 and 6 flutes** for maximum stability and less chatter.
- Advanced **AlTiNX coating** protects tool under extreme heat conditions for maximum tool life.
- Mills steels heat treated up to 58-62 HRC **with or without coolant.**
- Optimized geometries, designed and CNC precision ground for **stronger cutting edges**, superior balance.
- **A superior finisher** in a wide range of non-hardened materials.

Options

End designs

Corner radius – Helps prevent corner chipping.

Square end – For general machining and finishing.

Shank designs

h6 tolerance shanks – Fit all collets and conform to shrink-fit requirements. Many styles and sizes offered with flats for Weldon-style holders.

Choose the length for the job.

Extra rigidity – Choose stub length.

Medium to deep cuts – Order standard, long or extra-long flute length and reach.

Finishing passes – Order extra-long flute length.

Neck relief – Better clearance in deeper cavities.

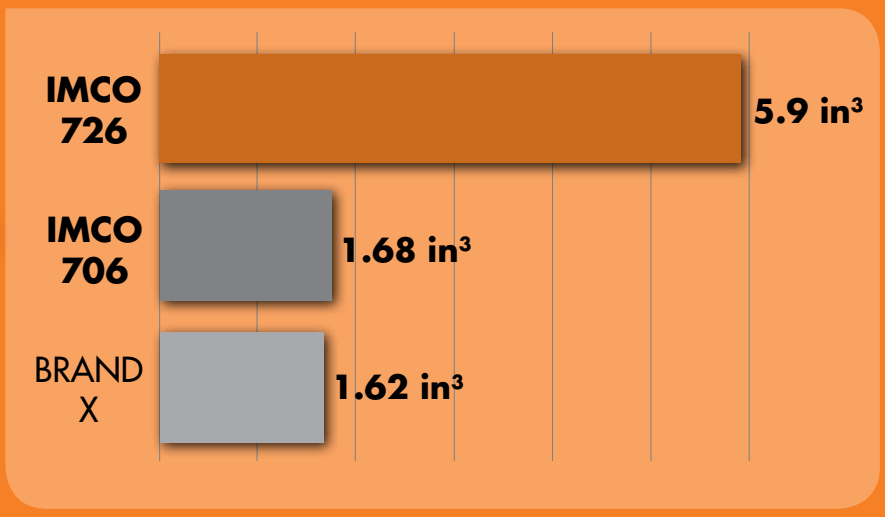
M726: Performance by the Numbers.

MORE THAN 3X THE TOOL LIFE IN HARDENED MATERIALS.

Test results in A2 steel at HRC 60

using 1/4" dia. end mill at 0.25" axial DOC and 0.015" radial DOC

Metal Removal Rate (MRR)



Omega-6 M7 Features

Corner radius and sharp corner available.

NEW on M725/M726

50° helix creates a higher shear plane in the cutting zone for better efficiency, chip control, and longer tool life (M706 has a 45° helix).

Tough carbide grade with high transverse rupture strength (TRS) for durability in hard-to-machine metals.

M726N M706N

M726

Six high-strength flutes for longer tool life and a better finish.*

Neck relief option improves tool stability by minimizing flute length and maximizing reach.

NEW on M725/M726

Advanced AlTiNX coating for even better heat protection and longer tool life.

M706 is coated with TiAlN.

*M725 (diameters 1/8"–3/16" and 3mm–5mm) have 5 flutes for maximum chip evacuation.

M725/M726

Your first choice of tooling in:

Hardened materials
Carbon and tool steels and stainless steels over 50 HRC

The ideal choice for finishing in:

Stainless steels
Austenitic and precipitation hardening stainless steels

Carbon and tool steels
Martensitic and ferritic stainless steels, as well as carbon and tool steels

Cast iron
Malleable and gray cast irons

M706

A great choice of tooling in:

- **Hardened materials**
- **Heat-resistant super alloys**

Also a great choice for finishing in:

- **Stainless steels**
- **Carbon and tool steels**
- **Cast iron**

NEW TOOL M725/M726

OMEGA-6 M725/M726:

Break the Hardness Barrier.

Hundreds of tests in the machining lab prove that the M725/M726* tools deliver 3x the tool life in hardened materials. IMCO's multi-flute monster is built to last when machining very hard materials and leaves superior finishes. They're the next wave in productivity-driven performance.

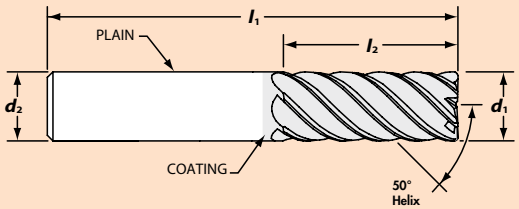
Square End and Corner Radius

M725

M726

Use M725/M726 to achieve maximum tool performance when machining hardened materials (58–62 HRC). Unique corner rad design, cutting edge design, and advanced AlTiNX coating yield great tool life.

* M725 (diameters 1/8"–3/16" and 3mm–5mm) have 5 flutes for maximum chip evacuation.



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mm d_1 +0,000 / -0,050 d_2 -0,0025 / -0,0100

Coating: AlTiNX

Model Code: M725
5-Flute w/Square End

P

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Overall Length l1	Shank Style	Order Code	EZ-ID Number M725 - xxxx - xxxx - SQ d1 l2
1/8	1/8	1/4	1-1/2	Plain	69050	M725-0125-0250-SQ
		1/2	1-1/2	Plain	69052	M725-0125-0500-SQ
3/16	3/16	5/16	2	Plain	69054	M725-0187-0312-SQ
		9/16	2	Plain	69056	M725-0187-0562-SQ

Model Code: M725
5-Flute w/Square End

P

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Overall Length l1	Shank Style	Order Code	EZ-ID Number M725 - xxx - xxx - SQ d1 l2
3	3	6	38	Plain	69138	M725-030-006-SQ
		8	38	Plain	69140	M725-030-008-SQ
4	4	7	50	Plain	69142	M725-040-007-SQ
		11	50	Plain	69144	M725-040-011-SQ
5	5	8	50	Plain	69146	M725-050-008-SQ
		13	50	Plain	69148	M725-050-013-SQ

Model Code: M726
6-Flute w/Square End

P W

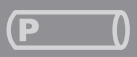
Cutter Dia d1	Shank Dia d2	Length of Cut l2	Overall Length l1	Shank Style	Order Code	EZ-ID Number M726 - xxxx - xxxx - SQ d1 l2
1/4	1/4	3/4	2-1/2	Plain	69058	M726-0250-0750-SQ
		1-1/4	3	Plain	69061	M726-0250-1250-SQ
3/8	3/8	7/8	2-1/2	Plain	69070	M726-0375-0875-SQ
				Weldon	69220	M726-0375-0875-SQ-W
		1-1/4	3	Plain	69073	M726-0375-1250-SQ
				Weldon	69223	M726-0375-1250-SQ-W
		2	4	Plain	69076	M726-0375-2000-SQ
				Weldon	69226	M726-0375-2000-SQ-W
1/2	1/2	1	3	Plain	69079	M726-0500-1000-SQ
				Weldon	69229	M726-0500-1000-SQ-W
		1-1/4	3	Plain	69083	M726-0500-1250-SQ
				Weldon	69233	M726-0500-1250-SQ-W
		1-5/8	3-1/2	Plain	69087	M726-0500-1625-SQ
				Weldon	69237	M726-0500-1625-SQ-W
		2-1/8	4	Plain	69091	M726-0500-2125-SQ
				Weldon	69241	M726-0500-2125-SQ-W
		2-5/8	5	Plain	69095	M726-0500-2625-SQ
				Weldon	69245	M726-0500-2625-SQ-W
5/8	5/8	1-3/8	3-1/2	Plain	69099	M726-0625-1375-SQ
				Weldon	69249	M726-0625-1375-SQ-W
		1-7/8	4	Plain	69103	M726-0625-1875-SQ
				Weldon	69253	M726-0625-1875-SQ-W
		2-5/8	5	Plain	69107	M726-0625-2625-SQ
				Weldon	69257	M726-0625-2625-SQ-W
3/4	3/4	1-5/8	4	Plain	69111	M726-0750-1625-SQ
				Weldon	69261	M726-0750-1625-SQ-W
		2-5/8	5	Plain	69115	M726-0750-2625-SQ
				Weldon	69265	M726-0750-2625-SQ-W
		3-3/8	6	Plain	69119	M726-0750-3375-SQ
				Weldon	69269	M726-0750-3375-SQ-W

Model Code: M726
6-Flute w/Square End

P W

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Overall Length l1	Shank Style	Order Code	EZ-ID Number M726 - xxx - xxx - SQ d1 l2
6	6	13	57	Plain	69150	M726-060-013-SQ
				Weldon	69290	M726-060-013-SQ-W
		25	75	Plain	69152	M726-060-025-SQ
				Weldon	69292	M726-060-025-SQ-W
8	8	19	63	Plain	69154	M726-080-019-SQ
				Weldon	69294	M726-080-019-SQ-W
		32	75	Plain	69156	M726-080-032-SQ
				Weldon	69296	M726-080-032-SQ-W
10	10	22	72	Plain	69158	M726-100-022-SQ
				Weldon	69298	M726-100-022-SQ-W
		40	88	Plain	69161	M726-100-040-SQ
				Weldon	69301	M726-100-040-SQ-W
		46	100	Plain	69164	M726-100-046-SQ
				Weldon	69304	M726-100-046-SQ-W
12	12	26	83	Plain	69167	M726-120-026-SQ
				Weldon	69307	M726-120-026-SQ-W
		50	100	Plain	69171	M726-120-050-SQ
				Weldon	69311	M726-120-050-SQ-W
		65	125	Plain	69175	M726-120-065-SQ
				Weldon	69315	M726-120-065-SQ-W
16	16	32	92	Plain	69179	M726-160-032-SQ
				Weldon	69319	M726-160-032-SQ-W
		55	110	Plain	69183	M726-160-055-SQ
				Weldon	69323	M726-160-055-SQ-W
		65	125	Plain	69187	M726-160-065-SQ
				Weldon	69327	M726-160-065-SQ-W
20	20	38	104	Plain	69191	M726-200-038-SQ
				Weldon	69331	M726-200-038-SQ-W
		65	125	Plain	69195	M726-200-065-SQ
				Weldon	69335	M726-200-065-SQ-W
		85	150	Plain	69199	M726-200-085-SQ
				Weldon	69339	M726-200-085-SQ-W

Model Code: M725
5-Flute w/Corner Radius



Cutter Dia d1	Shank Dia d2	Length of Cut l2	Overall Length l1	Shank Style	Order Code .015 CR	EZ-ID Number M725 - xxxx - xxxx - xxx d1 l2 R
1/8	1/8	1/4	1-1/2	Plain	69051	M725-0125-0250-015
		1/2	1-1/2	Plain	69053	M725-0125-0500-015
3/16	3/16	5/16	2	Plain	69055	M725-0187-0312-015
		9/16	2	Plain	69057	M725-0187-0562-015

Model Code: M726
6-Flute w/Corner Radius

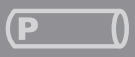
Cutter Dia d1	Shank Dia d2	Length of Cut l2	Overall Length l1	Shank Style	Order Code by Corner Radius (R) .015 CR	.030 CR	.060 CR	EZ-ID Number M726 - xxxx - xxxx - xxx d1 l2 R
1/4	1/4	3/4	2-1/2	Plain	69059	69060		M726-0250-0750-xxx
		1-1/4	3	Plain	69062	69063		M726-0250-1250-xxx
3/8	3/8	7/8	2-1/2	Plain	69071	69072		M726-0375-0875-xxx
				Weldon	69221	69222		M726-0375-0875-xxx-W
		1-1/4	3	Plain	69074	69075		M726-0375-1250-xxx
				Weldon	69224	69225		M726-0375-1250-xxx-W
		2	4	Plain	69077	69078		M726-0375-2000-xxx
				Weldon	69227	69228		M726-0375-2000-xxx-W
1/2	1/2	1	3	Plain	69080	69081	69082	M726-0500-1000-xxx
				Weldon	69230	69231	69232	M726-0500-1000-xxx-W
		1-1/4	3	Plain	69084	69085	69086	M726-0500-1250-xxx
				Weldon	69234	69235	69236	M726-0500-1250-xxx-W
		1-5/8	3-1/2	Plain	69088	69089	69090	M726-0500-1625-xxx
				Weldon	69238	69239	69240	M726-0500-1625-xxx-W
		2-1/8	4	Plain	69092	69093	69094	M726-0500-2125-xxx
				Weldon	69242	69243	69244	M726-0500-2125-xxx-W
		2-5/8	5	Plain	69096	69097	69098	M726-0500-2625-xxx
				Weldon	69246	69247	69248	M726-0500-2625-xxx-W
5/8	5/8	1-3/8	3-1/2	Plain		69101	69102	M726-0625-1375-xxx
				Weldon		69251	69252	M726-0625-1375-xxx-W
		1-7/8	4	Plain		69105	69106	M726-0625-1875-xxx
				Weldon		69255	69256	M726-0625-1875-xxx-W
		2-5/8	5	Plain		69109	69110	M726-0625-2625-xxx
				Weldon		69259	69260	M726-0625-2625-xxx-W
3/4	3/4	1-5/8	4	Plain		69113	69114	M726-0750-1625-xxx
				Weldon		69263	69264	M726-0750-1625-xxx-W
		2-5/8	5	Plain		69117	69118	M726-0750-2625-xxx
				Weldon		69267	69268	M726-0750-2625-xxx-W
		3-3/8	6	Plain		69121	69122	M726-0750-3375-xxx
				Weldon		69271	69272	M726-0750-3375-xxx-W

TOOL TIP

The Hot Corner.

Using an end mill with a corner radius greatly extends tool life in most applications, especially roughing cuts and those in materials with low machinability ratings. Corner chipping can lead to tool failure and poor finishes. Adding a corner radius reduces chipping and improves tool life by protecting the weakest part of the end mill.

Model Code: M725
5-Flute w/Corner Radius



Cutter Dia d1	Shank Dia d2	Length of Cut l2	Overall Length l1	Shank Style	Order Code 0,3 CR	EZ-ID Number M725 - xxx - xxx - xxx d1 l2 R
3	3	6	38	Plain	69139	M725-030-006-030
		8	38	Plain	69141	M725-030-008-030
4	4	7	50	Plain	69143	M725-040-007-030
		11	50	Plain	69145	M725-040-011-030
5	5	8	50	Plain	69147	M725-050-008-030
		13	50	Plain	69149	M725-050-013-030

Model Code: M726
6-Flute w/Corner Radius

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Overall Length l1	Shank Style	Order Code by Corner Radius (R) 0,5 CR	1,0 CR	1,5 CR	EZ-ID Number M726 - xxx - xxx - xxx d1 l2 R
6	6	13	57	Plain	69151			M726-060-013-050
				Weldon	69291			M726-060-013-050-W
		25	75	Plain	69153			M726-060-025-050
				Weldon	69293			M726-060-025-050-W
8	8	19	63	Plain	69155			M726-080-019-050
				Weldon	69295			M726-080-019-050-W
		32	75	Plain	69157			M726-080-032-050
				Weldon	69297			M726-080-032-050-W
10	10	22	72	Plain	69159	69160		M726-100-022-xxx
				Weldon	69299	69300		M726-100-022-xxx-W
		40	88	Plain	69162	69163		M726-100-040-xxx
				Weldon	69302	69303		M726-100-040-xxx-W
		46	100	Plain	69165	69166		M726-100-046-xxx
				Weldon	69305	69306		M726-100-046-xxx-W
12	12	26	83	Plain	69168	69169	69170	M726-120-026-xxx
				Weldon	69308	69309	69310	M726-120-026-xxx-W
		50	100	Plain	69172	69173	69174	M726-120-050-xxx
				Weldon	69312	69313	69314	M726-120-050-xxx-W
		65	125	Plain	69176	69177	69178	M726-120-065-xxx
				Weldon	69316	69317	69318	M726-120-065-xxx-W
16	16	32	92	Plain		69181	69182	M726-160-032-xxx
				Weldon		69321	69322	M726-160-032-xxx-W
		55	110	Plain		69185	69186	M726-160-055-xxx
				Weldon		69325	69326	M726-160-055-xxx-W
		65	125	Plain		69189	69190	M726-160-065-xxx
				Weldon		69329	69330	M726-160-065-xxx-W
20	20	38	104	Plain		69193	69194	M726-200-038-xxx
				Weldon		69333	69334	M726-200-038-xxx-W
		65	125	Plain		69197	69198	M726-200-065-xxx
				Weldon		69337	69338	M726-200-065-xxx-W
		85	150	Plain		69201	69202	M726-200-085-xxx
				Weldon		69341	69342	M726-200-085-xxx-W

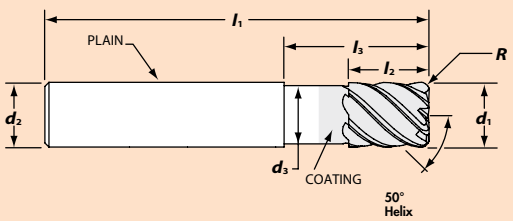
Square End and Corner Radius w/Neck Relief

M725N

M726N

M725N/M726N permit clearance in deeper cavities and easier machining against tight walls. Neck relief and short flute length mean increased stability of the end mill in the cut for more precise tolerances.

* M725 (diameters 1/8"–3/16" and 3mm–5mm) have 5 flutes for maximum chip evacuation.



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Coating: AlTiNX

Model Code: M725N
5-Flute w/Square End and Neck Relief

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Cutter Dia d1	Shank Dia d2	Length of Cut l2	Reach/ LBS l3	Overall Length l1	Neck Style	Order Code	EZ-ID Number M725 - xxxx (d1) - xxxx (l2) - Nxxxx (l3) - SQ
1/8	1/8	1/4	1/2	1-1/2	Short	69350	M725-0125-0250-N0500-SQ
		1/4	1/2	2-1/2	Short	69352	M725-0125-0250-N0500-SQ
		1/4	1-1/8	2-1/2	Long	69490	M725-0125-0250-N1125-SQ
3/16	3/16	5/16	9/16	2	Short	69354	M725-0187-0312-N0562-SQ
		3/8	5/8	3	Short	69356	M725-0187-0375-N0625-SQ
		3/8	1-3/8	3	Long	69492	M725-0187-0375-N1375-SQ

Model Code: M726N
6-Flute w/Square End and Neck Relief

P

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Reach/ LBS l3	Overall Length l1	Neck Style	Order Code	EZ-ID Number M726 - xxxx (d1) - xxxx (l2) - Nxxxx (l3) - SQ-Lx (l1)
1/4	1/4	3/8	5/8	2-1/2	Short	69358	M726-0250-0375-N0625-SQ
		5/8	7/8	3	Short	69361	M726-0250-0625-N0875-SQ
			1-3/8	3	Long	69494	M726-0250-0625-N1375-SQ
		5/8	7/8	4	Short	69364	M726-0250-0625-N0875-SQ-L4
			2-3/8	4	Long	69497	M726-0250-0625-N2375-SQ-L4
3/8	3/8	1/2	3/4	2-1/2	Short	69367	M726-0375-0500-N0750-SQ
		7/8	1-1/8	3	Short	69370	M726-0375-0875-N1125-SQ
			1-3/8	3	Long	69500	M726-0375-0875-N1375-SQ
		7/8	1-1/8	4	Short	69373	M726-0375-0875-N1125-SQ-L4
			2-3/8	4	Long	69503	M726-0375-0875-N2375-SQ-L4
1/2	1/2	5/8	7/8	3	Short	69376	M726-0500-0625-N0875-SQ
			1-3/8	3	Long	69506	M726-0500-0625-N1375-SQ
		1-1/8	1-3/8	3-1/2	Short	69380	M726-0500-1250-N1375-SQ
			1-3/4	3-1/2	Long	69510	M726-0500-1250-N1750-SQ
		1-1/8	1-3/8	4	Short	69384	M726-0500-1250-N1375-SQ-L4
			2-1/4	4	Long	69514	M726-0500-1250-N2250-SQ-L4
		1-1/8	1-3/8	5	Short	69388	M726-0500-1250-N1375-SQ-L5
			3-1/4	5	Long	69518	M726-0500-1250-N3250-SQ-L5
5/8	5/8	3/4	1	3-1/2	Short	69392	M726-0625-0750-N1000-SQ
			1-5/8	3-1/2	Long	69522	M726-0625-0750-N1625-SQ
		1-1/8	1-3/8	4	Short	69396	M726-0625-1250-N1375-SQ
			2-1/8	4	Long	69526	M726-0625-1250-N2125-SQ
		1-3/8	1-5/8	5	Short	69400	M726-0625-1375-N1625-SQ
			3-1/8	5	Long	69530	M726-0625-1375-N3125-SQ
3/4	3/4	1-1/8	1-3/8	4	Short	69404	M726-0750-1250-N1375-SQ
			2	4	Long	69534	M726-0750-1250-N2000-SQ
		1-5/8	1-7/8	5	Short	69408	M726-0750-1625-N1875-SQ
			2-7/8	5	Long	69538	M726-0750-1625-N2875-SQ
		1-5/8	1-7/8	6	Short	69412	M726-0750-1625-N1875-SQ-L6
			3-7/8	6	Long	69542	M726-0750-1625-N3875-SQ-L6

Model Code: M726N
6-Flute w/Square End and Neck Relief

P

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Reach/ LBS l3	Overall Length l1	Neck Style	Order Code	EZ-ID Number M726 - xxx - xxx - Nxxx- SQ -Lxxx d1 l2 l3 l1
6	6	9	15	57	Short	69420	M726-060-009-N015-SQ
		15	21	75	Short	69422	M726-060-015-N021-SQ
			39	75	Long	69556	M726-060-015-N039-SQ
		15	21	100	Short	69424	M726-060-015-N021-SQ-L100
			64	100	Long	69558	M726-060-015-N064-SQ-L100
8	8	11	17	63	Short	69426	M726-080-011-N017-SQ
		19	25	75	Short	69428	M726-080-019-N025-SQ
			39	75	Long	69562	M726-080-019-N039-SQ
		19	25	100	Short	69430	M726-080-019-N025-SQ-L100
			64	100	Long	69564	M726-080-019-N064-SQ-L100
10	10	13	19	72	Short	69432	M726-100-013-N019-SQ
			32	72	Long	69566	M726-100-013-N032-SQ
		23	29	88	Short	69435	M726-100-023-N029-SQ
			48	88	Long	69569	M726-100-023-N048-SQ
		23	29	100	Short	69438	M726-100-023-N029-SQ-L100
			60	100	Long	69572	M726-100-023-N060-SQ-L100
12	12	15	21	83	Short	69441	M726-120-015-N021-SQ
			38	83	Long	69575	M726-120-015-N038-SQ
		27	33	100	Short	69445	M726-120-027-N033-SQ
			55	100	Long	69579	M726-120-027-N055-SQ
		27	33	125	Short	69449	M726-120-027-N033-SQ-L125
			80	125	Long	69583	M726-120-027-N080-SQ-L125
16	16	20	26	92	Short	69453	M726-160-020-N026-SQ
			44	92	Long	69587	M726-160-020-N044-SQ
		35	41	110	Short	69457	M726-160-035-N041-SQ
			62	110	Long	69591	M726-160-035-N062-SQ
		35	41	125	Short	69461	M726-160-035-N041-SQ-L125
			77	126	Long	69595	M726-160-035-N077-SQ-L125
20	20	24	30	104	Short	69465	M726-200-024-N030-SQ
			54	104	Long	69599	M726-200-024-N054-SQ
		43	49	125	Short	69469	M726-200-043-N049-SQ
			75	125	Long	69603	M726-200-043-N075-SQ
		43	49	150	Short	69473	M726-200-043-N049-SQ-L150
			100	150	Long	69607	M726-200-043-N100-SQ-L150

PROFILE

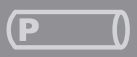
Application Support Team Leader **Steve Avers**

When any customer – distributor, shop owner or operator – comes to us with a challenge, Steve Avers will draw on all IMCO's resources to find the solution. His role is answering your questions and helping customers determine the best tool choice and speeds and feeds for specific materials.

Sometimes Steve can provide answers on the spot, as when he recommended speeds and feeds for the Hardrocker Racing Team. Other times it requires research in IMCO's onsite test lab. It's equipped to run most machining tasks, so IMCO can identify the solutions you need.

Steve checks the results of an experiment with a customer's tool to solve their chip evacuation problems.

Model Code: M725N
5-Flute with Corner Radius and Neck Relief



Cutter Dia d1	Shank Dia d2	Length of Cut l2	Reach/ LBS l3	Overall Length l1	Neck Style	Order Code .015 CR	EZ-ID Number M725 - xxxx - xxxx - Nxxxx - xxx d1 l2 l3 R
1/8	1/8	1/4	1/2	1-1/2	Short	69351	M725-0125-0250-N0500-015
			1/2	2-1/2	Short	69353	M725-0125-0250-N0500-015
			1-1/8	2-1/2	Long	69491	M725-0125-0250-N1125-015
3/16	3/16	5/16	9/16	2	Short	69355	M725-0187-0312-N0562-015
		3/8	5/8	3	Short	69357	M725-0187-0375-N0625-015
			1-3/8	3	Long	69493	M725-0187-0375-N1375-015

Model Code: M726N
6-Flute with Corner Radius and Neck Relief

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Reach/ LBS l3	Overall Length l1	Neck Style	Order Code by Corner Radius (R) .015 CR	.030 CR	.060 CR	EZ-ID Number M726 - xxxx - xxxx - Nxxxx - xxx -Lx d1 l2 l3 R l1
1/4	1/4	3/8	5/8	2-1/2	Short	69359	69360		M726-0250-0375-N0625-xxx
		5/8	7/8	3	Short	69362	69363		M726-0250-0625-N0875-xxx
			1-3/8	3	Long	69495	69496		M726-0250-0625-N1375-xxx
		5/8	7/8	4	Short	69365	69366		M726-0250-0625-N0875-xxx-L4
			2-3/8	4	Long	69498	69499		M726-0250-0625-N2375-xxx-L4
3/8	3/8	1/2	3/4	2-1/2	Short	69368	69369		M726-0375-0500-N0750-xxx
		7/8	1-1/8	3	Short	69371	69372		M726-0375-0875-N1250-xxx
			1-3/8	3	Long	69501	69502		M726-0375-0875-N1375-xxx
		7/8	1-1/8	4	Short	69374	69375		M726-0375-0875-N1125-xxx-L4
			2-3/8	4	Long	69504	69505		M726-0375-0875-N2375-xxx-L4
1/2	1/2	5/8	7/8	3	Short	69377	69378	69379	M726-0500-0625-N0875-xxx
			1-3/8	3	Long	69507	69508	69509	M726-0500-0625-N1375-xxx
		1-1/8	1-3/8	3-1/2	Short	69381	69382	69383	M726-0500-1125-N1375-xxx
			1-3/4	3-1/2	Long	69511	69512	69513	M726-0500-1125-N1750-xxx
		1-1/8	1-3/8	4	Short	69385	69386	69387	M726-0500-1125-N1375-xxx-L4
			2-1/4	4	Long	69515	69516	69517	M726-0500-1125-N2250-xxx-L4
		1-1/8	1-3/8	5	Short	69389	69390	69391	M726-0500-1125-N1375-xxx-L5
			3-1/4	5	Long	69519	69520	69521	M726-0500-1125-N3250-xxx-L5
5/8	5/8	3/4	1	3-1/2	Short		69394	69395	M726-0625-0750-N1000-xxx
			1-5/8	3-1/2	Long		69524	69525	M726-0625-0750-N1625-xxx
		1-1/8	1-3/8	4	Short		69398	69399	M726-0625-1250-N1375-xxx
			2-1/8	4	Long		69528	69529	M726-0625-1250-N2250-xxx
		1-3/8	1-5/8	5	Short		69402	69403	M726-0625-1375-N1625-xxx
			3-1/8	5	Long		69532	69533	M726-0625-1375-N3250-xxx
3/4	3/4	1-1/8	1-3/8	4	Short		69406	69407	M726-0750-1250-N1375-xxx
			2	4	Long		69536	69537	M726-0750-1250-N2000-xxx
		1-5/8	1-7/8	5	Short		69410	69411	M726-0750-1625-N1875-xxx
			2-7/8	5	Long		69540	69541	M726-0750-1625-N2875-xxx
		1-5/8	1-7/8	6	Short		69414	69415	M726-0750-1625-N1875-xxx-L6
			3-7/8	6	Long		69544	69545	M726-0750-1625-N3875-xxx-L6

Model Code: M726N
6-Flute with Corner Radius and Neck Relief

P

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Reach/ LBS l3	Overall Length l1	Neck Style	Order Code by Corner Radius (R) 0,5 CR	1,0 CR	1,5 CR	EZ-ID Number M726 - xxx - xxx - Nxxx - xxx - Lxxx d1 l2 l3 R l1
6	6	9	15	57	Short	69421			M726-060-009-N015-050
		15	21	75	Short	69423			M726-060-015-N021-050
			39	75	Long	69557			M726-060-015-N039-050
		15	21	100	Short	69425			M726-060-015-N021-050-L100
			64	100	Long	69559			M726-060-015-N064-050-L100
8	8	11	17	63	Short	69427			M726-080-011-N017-050
		19	25	75	Short	69429			M726-080-019-N025-050
			39	75	Long	69563			M726-080-019-N039-050
		19	25	100	Short	69431			M726-080-019-N025-050-L100
			64	100	Long	69565			M726-080-019-N064-050-L100
10	10	13	19	72	Short	69433	69434		M726-100-013-N019-xxx
			32	72	Long	69567	69568		M726-100-013-N032-xxx
		23	29	88	Short	69436	69437		M726-100-023-N029-xxx
			48	88	Long	69570	69571		M726-100-023-N048-xxx
		23	29	100	Short	69439	69440		M726-100-023-N029-xxx-L100
			60	100	Long	69573	69574		M726-100-023-N060-xxx-L100
12	12	15	21	83	Short	69442	69443	69444	M726-120-015-N021-xxx
			38	83	Long	69576	69577	69578	M726-012-015-N038-xxx
		27	33	100	Short	69446	69447	69448	M726-120-027-N033-xxx
			55	100	Long	69580	69581	69582	M726-120-027-N055-xxx
		27	33	125	Short	69450	69451	69452	M726-120-027-N033-xxx-L125
			80	125	Long	69584	69585	69586	M726-120-027-N080-xxx-L125
16	16	20	26	92	Short		69455	69456	M726-160-020-N026-xxx
			44	92	Long		69589	69590	M726-160-020-N044-xxx
		35	41	110	Short		69459	69460	M726-160-035-N041-xxx
			62	110	Long		69593	69594	M726-160-035-N062-xxx
		35	41	125	Short		69463	69464	M726-160-035-N041-xxx-L125
			77	125	Long		69597	69598	M726-160-035-N077-xxx-L125
20	20	24	30	104	Short		69467	69468	M726-200-024-N030-xxx
			54	104	Long		69601	69602	M726-200-024-N054-xxx
		43	49	125	Short		69471	69472	M726-200-043-N049-xxx
			75	125	Long		69605	69606	M726-200-043-N075-xxx
		43	49	150	Short		69475	69476	M726-200-043-N049-xxx-L150
			100	150	Long		69609	69610	M726-200-043-N100-xxx-L150

M725/M726 Application Guide (inch and metric) • Speed & Feed

	No. of Flutes	Type of Cut	INCH Tool Dia	Axial Max	Radial Max	Speed (SFM)	RPM	IPT	IPM	METRIC Tool Dia	Axial Max	Radial Max	Speed (M/Min)	RPM	MMPT	MM/Min
H 51 HRC–63 HRC	5	Rough	1/8	0.1250	0.0075	350	10,696	0.00035	18.7	3,0	3.0	0.18	106	113,247	0.0089	5039.5
		Rough < 10,000		0.1250	0.0075	325	9,932	0.00035	17.4		3.0	0.18	94	9,973	0.0089	443.8
		Finish		0.2500	0.001	300	9,168	0.00030	13.7		6.0	0.025	91	9,701	0.0075	363.8
	5	Rough	3/16	0.1875	0.0130	250	5,093	0.00070	17.8	4,0	4.0	0.275	64	5,093	0.0180	458.4
		Finish		0.3750	0.0015	300	6,112	0.00040	12.2		8.0	0.032	91	7,241	0.0097	351.2
	6	Rough	1/4	0.2500	0.0150	400	6,112	0.00100	36.6	5,0	5.0	0.345	80	5,093	0.0200	509.3
		Finish		0.5000	0.0020	300	4,584	0.00050	13.8		10.0	0.050	91	5,793	0.0107	309.9
	6	Rough	5/16	0.3125	0.0220	400	4,890	0.00125	36.6	6,0	6.0	0.380	122	6,472	0.0254	986.3
		Finish		0.6250	0.0020	300	3,667	0.00060	13.2		12.0	0.050	91	4,828	0.0127	367.9
	6	Rough	3/8	0.3750	0.0300	400	4,074	0.00150	36.6	8,0	8.0	0.558	121	4,814	0.0330	953.2
		Finish		0.7500	0.0030	300	3,056	0.00070	12.8		16.0	0.050	91	3,621	0.0152	330.2
	6	Rough	1/2	0.5000	0.0400	400	3,056	0.00200	36.6	10,0	10.0	0.800	121	3,851	0.0400	924.3
		Finish		1.000	0.0030	300	2,292	0.00100	13.7		20.0	0.076	91	2,897	0.0200	347.6
	6	Rough	5/8	0.6250	0.0500	400	2,445	0.00250	36.6	12,0	12.0	0.960	121	3,210	0.0480	924.3
		Finish		1.250	0.0050	300	1,833	0.00130	14.3		24.0	0.076	91	2,414	0.0240	347.6
	6	Rough	3/4	0.750	0.0600	400	2,037	0.00300	36.6	16,0	16.0	1.270	121	2,407	0.0635	917.1
		Finish		1.500	0.0050	300	1,528	0.00150	13.7		32.0	0.127	91	1,810	0.0330	358.4
	6	Rough	1	1.000	0.0800	400	1,528	0.00400	36.6	20,0	20.0	1.524	121	1,926	0.0760	878.1
		Finish		2.000	0.0080	300	1,146	0.00200	13.7		40.0	0.127	91	1,448	0.0380	330.2
H 43 HRC–50 HRC	5	Rough	1/8	0.1250	0.010	500	15,280	0.0006	45.8	3,0	3.0	0.254	152	16,127	0.0152	1225.7
		Rough < 10,000		0.1250	0.010	325	9,932	0.0006	29.8		3.0	0.254	94	9,973	0.0152	758.0
		Finish		0.2500	0.001	400	12,224	0.0003	18.3		6.0	0.025	121	12,838	0.0076	487.8
		Finish < 10,000		0.2500	0.001	325	9,932	0.0003	14.9		6.0	0.025	94	9,973	0.0076	379.0
	5	Rough	3/16	0.1875	0.015	500	10,186	0.0009	45.8	4,0	4.0	0.320	152	12,095	0.0192	1161.2
		Rough < 10,000		0.1875	0.015	480	9,780	0.0009	44.0		4.0	0.320	125	9,947	0.0192	954.9
		Finish		0.3750	0.0015	400	8,150	0.0005	20.4		8.0	0.025	121	9,629	0.0103	495.9
	6	Rough	1/4	0.2500	0.020	500	7,640	0.0012	55.0	5,0	5.0	0.400	152	9,676	0.0239	1156.3
		Finish		0.5000	0.003	400	6,112	0.0007	25.7		10.0	0.040	121	7,703	0.0132	508.4
	6	Rough	5/16	0.3125	0.025	500	6,112	0.0014	51.3	6,0	6.0	0.480	152	8,064	0.0305	1475.6
		Finish		0.6250	0.003	400	4,889	0.0007	20.5		12.0	0.075	121	6,419	0.0170	654.7
	6	Rough	3/8	0.7500	0.030	500	5,093	0.0017	52.0	8,0	8.0	0.640	152	6,048	0.0355	1288.2
		Finish		0.7500	0.005	400	4,074	0.0010	24.4		16.0	0.080	121	4,814	0.0175	505.5
	6	Rough	1/2	0.5000	0.040	500	3,820	0.0023	52.7	10,0	10.0	0.800	152	4,838	0.0453	1315.0
		Finish		1.0000	0.007	400	3,056	0.0014	25.6		20.0	0.130	121	3,851	0.0266	614.7
	6	Rough	5/8	0.6250	0.050	500	3,056	0.0029	53.2	12,0	12.0	0.970	152	4,032	0.0552	1335.3
		Finish		1.2500	0.008	400	2,445	0.0018	26.4		24.0	0.180	121	3,210	0.0336	647.0
	6	Rough	3/4	0.7500	0.060	500	2,547	0.0034	52.0	16,0	16.0	1.280	152	3,024	0.0736	1335.3
		Finish		1.5000	0.009	400	2,037	0.0020	24.4		32.0	0.200	121	2,407	0.0455	657.2
	6	Rough	1	1.0000	0.080	500	1,910	0.0046	52.7	20,0	20.0	1.600	152	2,419	0.0863	1252.6
		Finish		2.0000	0.010	400	1,528	0.0023	21.0		40.0	0.230	121	1,926	0.0508	587.0
P M 36 HRC–42 HRC	5	Rough	1/8	0.1250	0.0100	600	18,336	0.0010	91.7	3,0	3.0	0.240	182	19,310	0.0254	2452.4
		Rough < 10,000		0.1250	0.0100	325	9,932	0.0010	49.6		3.0	0.240	94	9,973	0.0254	1266.6
		Finish		0.2500	0.0015	450	13,752	0.0005	34.4		6.0	0.038	137	14,536	0.0127	923.0
		Finish < 10,000		0.2500	0.0015	325	9,932	0.0005	24.8		6.0	0.038	94	9,973	0.0127	633.3
	5	Rough	3/16	0.1875	0.0150	600	12,224	0.0013	79.5	4,0	4.0	0.320	182	14,483	0.0280	2027.6
		Rough < 10,000		0.1875	0.0150	475	9,677	0.0013	63.0		4.0	0.320	125	9,947	0.0280	1392.6
		Finish		0.3750	0.0020	450	9,168	0.0008	36.7		8.0	0.043	125	9,947	0.0170	845.5
	6	Rough	1/4	0.2500	0.0250	600	9,168	0.0020	110.0	5,0	5.0	0.400	182	11,586	0.0345	1998.6
		Rough < 10,000		–	–	–	–	–	–		5.0	0.400	157	9,995	0.0345	1724.1
		Finish		0.5000	0.0030	500	7,640	0.0010	45.8		10.0	0.053	137	8,721	0.0212	924.5
	6	Rough	5/16	0.3125	0.0310	600	7,334	0.0025	110.0	6,0	6.0	0.600	183	9,708	0.0510	2970.7
		Finish		0.6250	0.0030	500	6,112	0.0013	47.6		12.0	0.076	152	8,064	0.0254	1228.9
	6	Rough	3/8	0.3750	0.0370	600	6,112	0.0030	110.0	8,0	8.0	0.800	183	7,281	0.0635	2774.1
		Finish		0.7500	0.0030	500	5,093	0.0015	45.8		16.0	0.076	152	6,048	0.0330	1197.4
	6	Rough	1/2	0.5000	0.0500	600	4,584	0.0040	110.0	10,0	10.0	1.000	183	5,825	0.0800	2795.9
		Finish		1.0000	0.0050	500	3,820	0.0020	45.8		20.0	0.076	152	4,838	0.0400	1161.2
	6	Rough	5/8	0.6250	0.0625	600	3,667	0.0050	110.0	12,0	12.0	1.200	183	4,854	0.0960	2795.9
		Finish		1.2500	0.0050	500	3,056	0.0025	45.8		24.0	0.120	152	4,032	0.0480	1161.2
	6	Rough	3/4	0.7500	0.0750	600	3,056	0.0060	110.0	16,0	16.0	1.600	183	3,641	0.1270	2774.1
		Finish		1.5000	0.0050	500	2,546	0.0030	45.8		32.0	0.127	152	3,024	0.0635	1152.1
	6	Rough	1	1.0000	0.1000	600	2,292	0.0080	110.0	20,0	20.0	2.000	183	2,912	0.1524	2663.1
		Finish		2.0000	0.0070	500	1,910	0.0040	45.8		40.0	0.127	152	2,419	0.0762	1106.0

Choosing the Right Tool Holder

IMCO's tools are designed and tested in all types of holders to meet the needs of our customers' shops. The h6 shank tolerances meet the requirements for press-fit and shrink-fit systems and eliminate run-out issues when using milling chucks and collets. Most IMCO tools are also offered with precision-ground flats to improve performance when the tool is used in an end mill holder with a side-locking set screw.

Whatever your choice in holders, it is important to always take the time to indicate a new tool in the spindle to ensure the total indicator run-out (TIR) is minimized, so you get maximum performance from our tools.

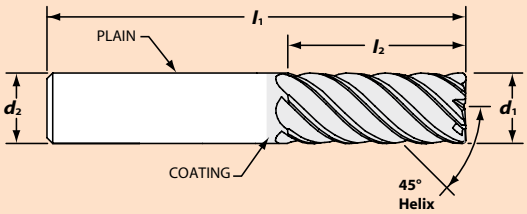
Run Wet or Dry? *Run Both!*

Tests show that M725/M726 end mills provide the same extended tool life when machining under coolant or dry with an air blast – even in very hard materials.

M706

Square End

For high-performance machining in hardened tool steels and difficult materials such as super alloys. Square end available for general finishing operations and for finishing to a 90° angle.



in d_1 +0.000 / -0.002 d_2 -0.0001 / -0.0004

mm d_1 +0,000 / -0,050 d_2 -0,0025 / -0,0100

Coating: TiAlN

Model Code: M706
6-Flute w/Square End

P W

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Overall Length l1	Shank Style	Order Code	EZ-ID Number M706 - xxxx - xxxx - SQ -Lxx d1 l2 l1
1/8	1/8	1/4	1-1/2	Plain	63190	M706-0125-0250-SQ
		1/2	1-1/2	Plain	62781	M706-0125-0500-SQ
3/16	3/16	5/16	2	Plain	63192	M706-0187-0312-SQ
		9/16	2	Plain	62782	M706-0187-0562-SQ
1/4	1/4	3/8	2-1/2	Plain	63194	M706-0250-0375-SQ-L25
		3/4	2-1/2	Plain	62783	M706-0250-0750-SQ
		3/4	2-1/2	Weldon	30491	M706-0250-0750-SQ-W
		1	4	Plain	63315	M706-0250-1000-SQ-L4
5/16	5/16	13/16	2-1/2	Plain	62784	M706-0312-0812-SQ
		13/16	2-1/2	Weldon	30492	M706-0312-0812-SQ-W
3/8	3/8	1/2	2-1/2	Plain	63196	M706-0375-0500-SQ-L25
		1	2-1/2	Plain	62785	M706-0375-1000-SQ
		1	2-1/2	Weldon	30493	M706-0375-1000-SQ-W
		1	4	Plain	63317	M706-0375-1000-SQ-L4
1/2	1/2	5/8	3	Plain	63198	M706-0500-0625-SQ-L3
		1-1/4	3	Plain	62787	M706-0500-1250-SQ
		1-1/4	3	Weldon	30495	M706-0500-1250-SQ-W
		1	5	Plain	63318	M706-0500-1000-SQ-L5
5/8	5/8	3/4	3-1/2	Plain	63199	M706-0625-0750-SQ-L35
		1-5/8	3-1/2	Plain	62788	M706-0625-1625-SQ
		1-5/8	3-1/2	Weldon	30497	M706-0625-1625-SQ-W
3/4	3/4	1	4	Plain	63200	M706-0750-1000-SQ-L4
		1-5/8	4	Plain	62789	M706-0750-1625-SQ
		1-5/8	4	Weldon	30498	M706-0750-1625-SQ-W
1	1	2	4	Plain	62790	M706-1000-2000-SQ
		2	4	Weldon	30499	M706-1000-2000-SQ-W

Model Code: M706
6-Flute w/Square End

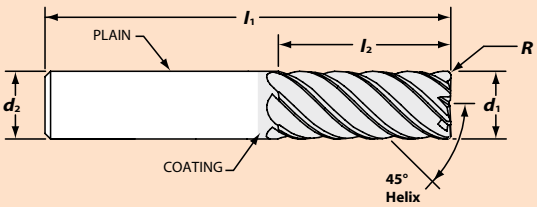
P

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Overall Length l1	Shank Style	Order Code	EZ-ID Number M706 - xxx - xxx - SQ d1 l2
3	3	8	38	Plain	62802	M706-030-008-SQ
4	4	11	50	Plain	62803	M706-040-011-SQ
5	5	13	50	Plain	62804	M706-050-013-SQ
6	6	10	57	Plain	62990	M706-060-010-SQ
		13	57	Plain	62805	M706-060-013-SQ
		15	100	Plain	63322	M706-060-015-SQ
8	8	12	63	Plain	62991	M706-080-012-SQ
		19	63	Plain	62806	M706-080-019-SQ
		20	100	Plain	63323	M706-080-020-SQ
10	10	14	72	Plain	62992	M706-100-014-SQ
		22	72	Plain	62807	M706-100-022-SQ
		25	100	Plain	63324	M706-100-025-SQ
12	12	16	83	Plain	62993	M706-120-016-SQ
		26	83	Plain	62808	M706-120-026-SQ
		30	125	Plain	63325	M706-120-030-SQ
16	16	22	92	Plain	62994	M706-160-022-SQ
		32	92	Plain	62809	M706-160-032-SQ
20	20	26	104	Plain	62995	M706-200-026-SQ
		38	104	Plain	62810	M706-200-038-SQ

M706

Corner Radius

For high-performance machining in hardened tool steels and difficult materials such as super alloys. Corner radius style for roughing and semi-finishing.



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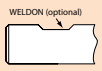


Coating: TiAlN

Model Code: M706
6-Flute w/Corner Radius

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Overall Length l1	Shank Style	Order Code by Corner Radius (R) .015 CR	.020 CR	.030 CR	EZ-ID Number M706 - xxxx - xxxx - xxx - Lxx d1 l2 R l1
1/8	1/8	1/4	1-1/2	Plain	62983			M706-0125-0250-015
		1/2	1-1/2	Plain	62791			M706-0125-0500-015
3/16	3/16	5/16	2	Plain	62984			M706-0187-0312-015
		9/16	2	Plain	62792			M706-0187-0562-015
1/4	1/4	3/8	2-1/2	Plain		62985		M706-0250-0375-020-L25
		3/4	2-1/2	Plain		62793	62838	M706-0250-0750-xxx
		3/4	2-1/2	Weldon		30568	62847	M706-0250-0750-xxx-W
		1	4	Plain		63301		M706-0250-1000-020-L4
5/16	5/16	13/16	2-1/2	Plain			62794	M706-0312-0812-030
		13/16	2-1/2	Weldon			30569	M706-0312-0812-030-W
3/8	3/8	1/2	2-1/2	Plain			62986	M706-0375-0500-030-L25
		1	2-1/2	Plain			62795	M706-0375-1000-030
		1	2-1/2	Weldon			30570	M706-0375-1000-030-W
		1	4	Plain			63303	M706-0375-1000-030-L4
1/2	1/2	5/8	3	Plain			62987	M706-0500-0625-030-L3
		1-1/4	3	Plain			62797	M706-0500-1250-030
		1-1/4	3	Weldon			30572	M706-0500-1250-030-W
		1	5	Plain			63304	M706-0500-1000-030-L5
5/8	5/8	3/4	3-1/2	Plain			62988	M706-0625-0750-030-L35
		1-5/8	3-1/2	Plain			62798	M706-0625-1625-030
		1-5/8	3-1/2	Weldon			30574	M706-0625-1625-030-W
3/4	3/4	1	4	Plain			62989	M706-0750-1000-030-L4
		1-5/8	4	Plain			62799	M706-0750-1625-030
		1-5/8	4	Weldon			30575	M706-0750-1625-030-W
1	1	2	4	Plain			62800	M706-1000-2000-030
		2	4	Weldon			62801	M706-1000-2000-030-W

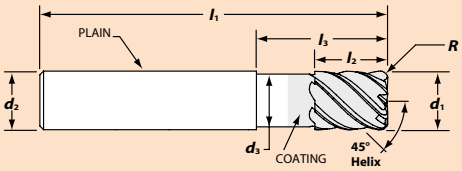
Model Code: M706
6-Flute w/Corner Radius

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Overall Length l1	Shank Style	Order Code by Corner Radius (R) 0,3 CR	0,5 CR	1,0 CR	EZ-ID Number M706 - xxx - xxx - xxx d1 l2 R
3	6	8	57	Plain	62811			M706-030-008-030
4	6	11	57	Plain	62812			M706-040-011-030
5	6	13	57	Plain	62813			M706-050-013-030
6	6	10	57	Plain		62996		M706-060-010-050
		13	57	Plain		62814		M706-060-013-050
		15	100	Plain		63308		M706-060-015-050
8	8	12	63	Plain		62997		M706-080-012-050
		19	63	Plain		62815		M706-080-019-050
		20	100	Plain		63309		M706-080-020-050
10	10	14	72	Plain		62998		M706-100-014-050
		22	72	Plain		62816		M706-100-022-050
		25	100	Plain		63310		M706-100-025-050
12	12	16	83	Plain			62999	M706-120-016-100
		26	83	Plain			62817	M706-120-026-100
		30	125	Plain			63311	M706-120-030-100
16	16	22	92	Plain			63000	M706-160-022-100
		32	92	Plain			62818	M706-160-032-100
20	20	26	104	Plain			63001	M706-200-026-100
		38	104	Plain			62819	M706-200-038-100

M706N

Square End and Corner Radius Tools with Neck Relief

M706N permits clearance in deeper cavities and easier machining tight against walls. Neck relief and short flute length mean increased end mill stability in the cut for more precise tolerances.



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Coating: TiAlN

Model Code: M706N
6-Flute w/Square End and Neck Relief

P W

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Reach/ LBS l3	Overall Length l1	Shank Style	Order Code	EZ-ID Number M706 - xxxx - xxxx - Nxxxx - SQ - Lxx d1 l2 l3 l3
1/8	1/8	1/4	1/2	1-1/2	Plain	62820	M706-0125-0250-N0500-SQ
3/16	3/16	5/16	9/16	2	Plain	62821	M706-0187-0312-N0562-SQ
1/4	1/4	3/8	1-1/8	2-1/2	Plain	62822	M706-0250-0375-N1125-SQ
		3/8	1-1/8	2-1/2	Weldon	31079	M706-0250-0375-N1125-SQ-W
5/16	5/16	7/16	1-1/8	2-1/2	Plain	62823	M706-0312-0437-N1125-SQ
		7/16	1-1/8	2-1/2	Weldon	31091	M706-0312-0437-N1125-SQ-W
3/8	3/8	1/2	1-1/8	2-1/2	Plain	62824	M706-0375-0500-N1125-SQ-L25
		1/2	1-1/8	2-1/2	Weldon	31092	M706-0375-0500-N1125-SQ-L25-W
1/2	1/2	5/8	1-3/8	3	Plain	62825	M706-0500-0625-N1375-SQ-L3
		5/8	1-3/8	3	Weldon	31093	M706-0500-0625-N1375-SQ-L3-W
5/8	5/8	3/4	1-1/2	3-1/2	Plain	62826	M706-0625-0750-N1500-SQ
		3/4	1-1/2	3-1/2	Weldon	31094	M706-0625-0750-N1500-SQ-W
3/4	3/4	1	1-3/4	4	Plain	62827	M706-0750-1000-N1750-SQ
		1	1-3/4	4	Weldon	31095	M706-0750-1000-N1750-SQ-W
1	1	1-1/8	1-7/8	4	Plain	62828	M706-1000-1125-N1875-SQ-L4
		1-1/8	1-7/8	4	Weldon	31096	M706-1000-1125-N1875-SQ-L4-W

Model Code: M706N
6-Flute w/Square End and Neck Relief

P

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Reach/ LBS l3	Overall Length l1	Shank Style	Order Code	EZ-ID Number M706-xxx-xxx-Nxxx-SQ d1 l2 l3
3	3	6	12	38	Plain	62829	M706-030-006-N012-SQ
4	4	7	13	50	Plain	62830	M706-040-007-N013-SQ
5	5	8	14	50	Plain	62831	M706-050-008-N014-SQ
6	6	9	20	57	Plain	62832	M706-060-009-N020-SQ
8	8	11	26	63	Plain	62833	M706-080-011-N026-SQ
10	10	13	31	72	Plain	62834	M706-100-013-N031-SQ
12	12	15	37	83	Plain	62835	M706-120-015-N037-SQ
16	16	20	41	92	Plain	62836	M706-160-020-N041-SQ
20	20	24	47	104	Plain	62837	M706-200-024-N047-SQ

PROFILE

Autodesk: Integrated CAM Solutions

Adaptive clearing saves time and money.

Traditional roughing tool paths call for wide cuts - up to 100% of the end mill diameter. This heavy tool engagement creates a lot of cutting pressure, requiring slower-than-optimum feed rates and depths of cut that are less than or equal to the mill diameter - leaving much of the flute length cutting nothing but air.

Even slower speeds are required as cutting pressure increases when milling inside radii in pockets.

Tool paths generated using Adaptive Clearing techniques from HSMWorks and Autodesk reduce chatter by engaging more of the flute length, and reduce cutting pressures by maintaining a smaller but constant step-over, regardless of the feature being milled.

Model Code: M706N
6-Flute w/Corner Radius and Neck Relief

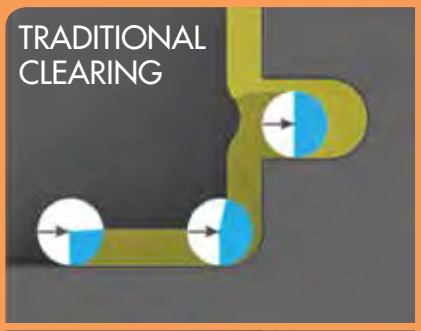
Cutter Dia d1	Shank Dia d2	Length of Cut l2	Reach/ LBS l3	Overall Length l1	Shank Style	Order Code by Corner Radius (R) .015 CR	.020 CR	.030 CR	.060 CR	EZ-ID Number M706 - xxxx - xxxx - Nxxxx - xxx - Lxx d1 l2 l3 R l1
1/8	1/8	1/4	1/2	1-1/2	Plain	62901				M706-0125-0250-N0500-015
3/16	3/16	5/16	9/16	2	Plain	62902				M706-0187-0312-N0562-015
1/4	1/4	3/8	1-1/8	2-1/2	Plain		62903	62904		M706-0250-0375-N1125-xxx
		3/8	1-1/8	2-1/2	Weldon		31099	31100		M706-0250-0375-N1125-xxx-W
5/16	5/16	7/16	1-1/8	2-1/2	Plain		62905	62906		M706-0312-0437-N1125-xxx
		7/16	1-1/8	2-1/2	Weldon		31101	31102		M706-0312-0437-N1125-xxx-W
3/8	3/8	1/2	1-1/8	2-1/2	Plain		62907	62908	62909	M706-0375-0500-N1125-xxx-L25
		1/2	1-1/8	2-1/2	Weldon		31103	31104	31191	M706-0375-0500-N1125-xxx-L25-W
1/2	1/2	5/8	1-3/8	3	Plain		62910	62911	62912	M706-0500-0625-N1375-xxx
		5/8	1-3/8	3	Weldon		31192	31193	31194	M706-0500-0625-N1375-xxx-L3-W
5/8	5/8	3/4	1-1/2	3-1/2	Plain			62913		M706-0625-0750-N1500-030
		3/4	1-1/2	3-1/2	Weldon			31195		M706-0625-0750-N1500-030-W
3/4	3/4	1	1-3/4	4	Plain			62914	62915	M706-0750-1000-N1750-xxx
		1	1-3/4	4	Weldon			31197	31198	M706-0750-1000-N1750-xxx-W
1	1	1-1/8	1-7/8	4	Plain			62916	62917	M706-1000-1125-N1875-xxx-L4
		1-1/8	1-7/8	4	Weldon			31200	31201	M706-1000-1125-N1875-xxx-L4-W

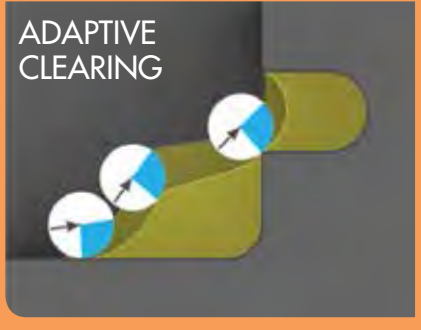
Model Code: M706N
6-Flute w/Corner Radius and Neck Relief

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Reach/ LBS l3	Overall Length l1	Shank Style	Order Code by Corner Radius (R) 0,3 CR	0,5 CR	1,0 CR	EZ-ID Number M706 - xxx - xxx - Nxxx - xxx d1 l2 l3 R
3	3	6	12	38	Plain	62918			M706-030-006-N012-030
4	4	7	13	50	Plain	62919			M706-040-007-N013-030
5	5	8	14	50	Plain	62920			M706-050-008-N014-030
6	6	9	20	57	Plain		62921		M706-060-009-N020-050
8	8	11	26	63	Plain		62922		M706-080-011-N026-050
10	10	13	31	72	Plain		62923		M706-100-013-N031-050
12	12	15	37	83	Plain			62924	M706-120-015-N037-100
16	16	20	41	92	Plain			62925	M706-160-020-N041-100
20	20	24	47	104	Plain			62926	M706-200-024-N047-100

The result is longer tool life, better finishes, and much higher metal removal rates!

Pick the right tool and the right program for the job and see better cycle times, better tool life and lots of cost savings. Learn more about HSMWorks – pioneers of modern high-speed machining and Adaptive Clearing at **cam.autodesk.com.**





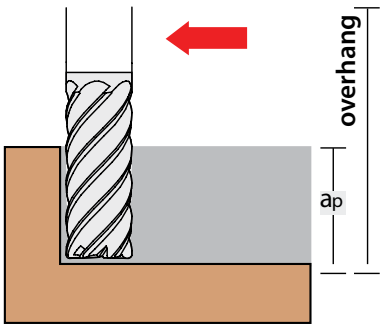
As seen here, with traditional roughing programs, the amount of mill diameter engaged in cutting changes as it moves along the tool path. The changing cutting pressures require "programming for worst-case conditions" and don't optimize the tool or the machine. Note that Adaptive Clearing keeps the mill diameter engagement constant – reducing cutting pressure and increasing metal removal rates up to 3x that of traditional paths.

M706 Omega Series Application Guide (inch) • Speed & Feed

ISO Classification	Work Material	Type of Cut	Axial DOC	Radial DOC	No. of Flutes	Speed (SFM)	Feed (Inches per Tooth) 1/8	1/4	3/8	1/2	5/8	3/4	1
M	Precipition Hardening Stainless Steels	Peripheral - Rough	1.25 x D	.2 x D	6	225	.0006	.0012	.0017	.0023	.0029	.0035	.0046
	17-4 PH, 15-5 PH, 13-8 PH	Peripheral - HEM	1.5 x D	.05 x D	6	325	.0011	.0023	.0034	.0046	.0057	.0069	.0092
		Finish	1.5 x D	.01 x D	6	300	.0007	.0014	.0020	.0027	.0034	.0041	.0054
	Martensitic Stainless Steel	Peripheral - Rough	1.25 x D	.2 x D	6	275	.0005	.0010	.0015	.0020	.0025	.0030	.0040
	416, 410, 440C	Peripheral - HEM	1.5 x D	.12 x D	6	425	.0006	.0012	.0018	.0024	.0030	.0036	.0048
		Finish	1.5 x D	.01 x D	6	425	.0006	.0011	.0017	.0022	.0028	.0033	.0044
P	Medium Carbon Steels	Peripheral - Rough	1.25 x D	.25 x D	6	275	.0006	.0012	.0018	.0024	.0030	.0036	.0048
	4140, 4340	Peripheral - HEM	1.5 x D	.14 x D	6	400	.0009	.0017	.0026	.0034	.0043	.0051	.0068
		Finish	1.5 x D	.01 x D	6	400	.0008	.0016	.0024	.0032	.0040	.0048	.0064
H	Tool & Die Steels < 48 Rc	Peripheral - Rough	1.25 x D	.18 x D	6	275	.0006	.0011	.0017	.0022	.0028	.0033	.0044
	A2, D2, H13, P20	Peripheral - HEM	1.5 x D	.1 x D	6	425	.0008	.0015	.0023	.0030	.0038	.0045	.0060
		Finish	1.5 x D	.01 x D	6	425	.0007	.0013	.0020	.0026	.0033	.0039	.0052
	Hardened Steels	Slotting	.25 x D	1 x D	6	100	.0004	.0007	.0011	.0014	.0018	.0021	.0028
	49 Rc to 57 Rc	Peripheral - Rough	1.0 x D	.16 x D	6	180	.0005	.0009	.0014	.0018	.0023	.0027	.0036
		Peripheral - HEM	1.25 x D	.08 x D	6	350	.0006	.0012	.0018	.0024	.0030	.0036	.0048
		Finish	1.5 x D	.01 x D	6	350	.0005	.0010	.0015	.0020	.0025	.0030	.0040
	Hardened Steels	Slotting	.25 x D	1 x D	6	75	.0004	.0007	.0011	.0014	.0018	.0021	.0028
	58 Rc to 62 Rc	Peripheral - Rough	1.0 x D	.1 x D	6	150	.0005	.0009	.0014	.0018	.0023	.0027	.0036
		Peripheral - HEM	1.25 x D	.06 x D	6	375	.0005	.0010	.0015	.0020	.0025	.0030	.0040
		Finish	1.5 x D	.01 x D	6	350	.0005	.0009	.0014	.0018	.0023	.0027	.0036
S	High Temperature Alloys	Slotting	.25 x D	1 x D	6	60	.0004	.0008	.0013	.0017	.0021	.0025	.0034
	Inconel, Haynes, Stellite,	Peripheral - Rough	1.25 x D	.1 x D	6	80	.0005	.0010	.0015	.0020	.0025	.0030	.0040
	Hastalloy, Waspalloy	Finish	1.5 x D	.01 x D	6	125	.0005	.0010	.0015	.0020	.0025	.0031	.0041
K	Cast Iron - Gray	Finish	1.5 x D	.01 x D	6	425	.0009	.0018	.0027	.0037	.0046	.0055	.0073
	Cast Iron - Malleable	Finish	1.5 x D	.01 x D	6	400	.0008	.0017	.0025	.0034	.0042	.0051	.0068

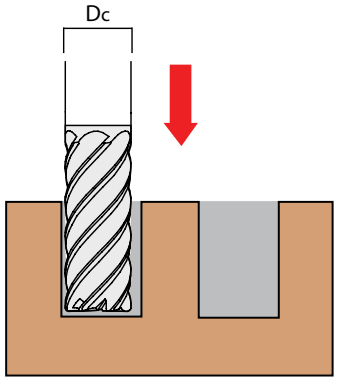
D = Tool Diameter

Adjustments – Apply these adjustments when programming the following applications.



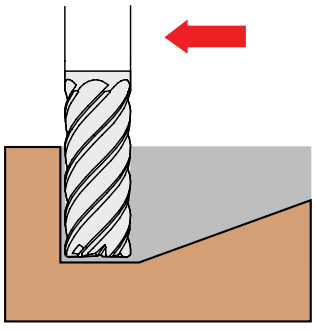
1. Long reach mills with large overhang

- Reduce speed rate and chipload by 10%



2. Plunge entry into work piece

- Reduce chipload by 80% of recommended slotting rate
- Peck mill if axial DOC (ap) exceeds 50% of Dc



3. Ramp entry into work piece

- Ramp at 1.5°–2.5° angle
- Reduce chipload by 20% of recommended slotting rate

M706 Omega Series Application Guide (metric) • Speed & Feed

ISO Classification	Work Material	Type of Cut	Axial DOC	Radial DOC	No. of Flutes	Speed (M/Min)	Feed (MM per Tooth) 3,0	6,0	10,0	12,0	16,0	20,0
M	Precipition Hardening Stainless Steels	Peripheral - Rough	1.25 x D	.2 x D	6	69	0.0147	0.0293	0.0487	0.0587	0.0780	0.0980
	17-4 PH, 15-5 PH, 13-8 PH	Peripheral - HEM	1.5 x D	.05 x D	6	99	0.0291	0.0583	0.0967	0.1165	0.1550	0.1946
		Finish	1.5 x D	.01 x D	6	91	0.0172	0.0345	0.0572	0.0689	0.0917	0.1151
	Martensitic Stainless Steel	Peripheral - Rough	1.25 x D	.2 x D	6	84	0.0159	0.0319	0.0529	0.0637	0.0848	0.1064
	416, 410, 440C	Peripheral - HEM	1.5 x D	.12 x D	6	130	0.0205	0.0409	0.0679	0.0818	0.1088	0.1366
		Finish	1.5 x D	.01 x D	6	130	0.0198	0.0396	0.0658	0.0793	0.1054	0.1324
P	Medium Carbon Steels	Peripheral - Rough	1.25 x D	.25 x D	6	84	0.0152	0.0305	0.0506	0.0610	0.0811	0.1018
	4140, 4340	Peripheral - HEM	1.5 x D	.14 x D	6	122	0.0216	0.0432	0.0717	0.0864	0.1149	0.1442
		Finish	1.5 x D	.01 x D	6	122	0.0203	0.0406	0.0675	0.0813	0.1081	0.1357
H	Tool & Die Steels < 48 Rc	Peripheral - Rough	1.25 x D	.18 x D	6	84	0.0140	0.0279	0.0464	0.0559	0.0743	0.0933
	A2, D2, H13, P20	Peripheral - HEM	1.5 x D	.1 x D	6	130	0.0191	0.0381	0.0632	0.0762	0.1013	0.1273
		Finish	1.5 x D	.01 x D	6	130	0.0165	0.0330	0.0548	0.0660	0.0878	0.1103
	Hardened Steels	Slotting	.25 x D	1 x D	6	30	0.0089	0.0178	0.0295	0.0356	0.0473	0.0594
	49 Rc to 57 Rc	Peripheral - Rough	1.0 x D	.16 x D	6	55	0.0114	0.0229	0.0379	0.0457	0.0608	0.0764
		Peripheral - HEM	1.25 x D	.08 x D	6	107	0.0152	0.0305	0.0506	0.0610	0.0811	0.1018
		Finish	1.5 x D	.01 x D	6	107	0.0127	0.0254	0.0422	0.0508	0.0676	0.0848
	Hardened Steels	Slotting	.25 x D	1 x D	6	23	0.0089	0.0178	0.0295	0.0356	0.0473	0.0594
	58 Rc to 62 Rc	Peripheral - Rough	1.0 x D	.1 x D	6	46	0.0114	0.0229	0.0379	0.0457	0.0608	0.0764
		Peripheral - HEM	1.25 x D	.06 x D	6	114	0.0127	0.0254	0.0422	0.0508	0.0676	0.0848
		Finish	1.5 x D	.01 x D	6	107	0.0114	0.0229	0.0379	0.0457	0.0608	0.0764
S	High Temperature Alloys	Slotting	.25 x D	1 x D	6	18	.0107	.0213	.0354	.0427	.0568	.0713
	Inconel, Haynes, Stellite,	Peripheral - Rough	1.25 x D	.1 x D	6	24	.0127	.0254	.0422	.0508	.0676	.0848
	Hastalloy, Waspalloy	Finish	1.5 x D	.01 x D	6	38	.0129	.0258	.0429	.0517	.0688	.0863
K	Cast Iron - Gray	Finish	1.5 x D	.01 x D	6	130	0.0233	0.0465	0.0772	0.0930	0.1238	0.1554
	Cast Iron - Malleable	Finish	1.5 x D	.01 x D	6	122	0.0215	0.0431	0.0715	0.0862	0.1146	0.1439

D = Tool Diameter

CASE STUDY

Improve Productivity and Surface Finish

One customer was having difficulty meeting surface finish and job deadlines on a milling application in D2 steel hardened to 60 HRC. Omega-6 not only outran competitors' 4- and 6-flute tools by a wide margin, it also solved the customer's finish problems. (In this application, the Omega-6 ran at 460 SFM with an axial cut of .750" and radial cut of .002".)

PROFILE

Neal Wilson
IMCO Representative

Gilbert Boquet
Mill Foreman, Matherne Instrumentation

"We're always trying different tools to see which one gives us the best performance," says Gilbert Boquet, mill foreman at Matherne Instrumentation in Houma, Louisiana. So when an order came in for complex parts in 718 Inconel, he put several competing end mills to the test.

The finished part has multiple 1½" x 2" windows and ¼"-thick lugs 1½" high. The tools that worked longest: M7 Omega-6® end mills.

"We tested other tools, but this one did a little better – it cut two windows more than the next best tool," Boquet says. "We get better tool life. And we don't have to replace tools as often, so we save time."

IMCO Rep Neal Wilson has heard it before. They'd helped Boquet solve a tough problem in 2011 with Omega-6 end mills.

Matherne gets a gorgeous finish with IMCO cutting tools and more parts out the door.

"It's the best tool we've found so far." *- Gilbert Boquet, Matherne Instrumentation*

IMCO Rep Neal Wilson (right) says Mill Foreman Gilbert Boquet (center) and Shop Foreman Brandon LeBeouf love the higher productivity with Omega M7 end mills.

"I recommended changing the tool path," Neal says, "and calculated the radial chip thinning rates. The end result is he roughed out the whole part with one Omega-6, where he was using five tools the old way. He is a very happy customer."

Results

- **400% increase in tool life**
- **Fewer tool changes, more production**

Matherne Instrumentation owner Chad Matherne likes replacing five tools with one.

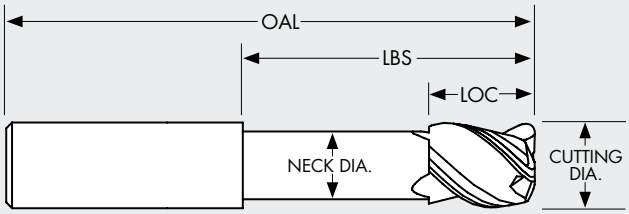
EZ-ID

How to build the EZ-ID code.

IMCO's "smart" coding system saves you time locating part numbers. Just use the specifics of the tool you need, "plug" them into the coding system, and you're there!

How EZ-ID works.

Each EZ-ID part number actually describes the tool itself. It starts with general information (type of tool and tool "family") and gets more specific as you go.



Building the EZ-ID code, step by step.

Insert the numbers in the segments as indicated here. If a certain segment doesn't apply (neck dimension, nonstandard length or special shank), just skip it. Separate the segments with hyphens.

1 Enter the model number.

For example, the model number for an Omega-6 M726 with neck relief would be M726N. In the examples below, the model number for an Omega-6 would be M726.

2 Enter the **tool diameter** (always to three decimal places). Include the leading zero for diameters less than 1in. or 10mm.

3 Enter the **length of cut (LOC).** Include the leading zero for a LOC less than 1in. or 10mm.

4 Enter the **length below shank (LBS) or reach**. Include the leading zero for a LBS less than 1in. or 10mm. Indicate that this is a neck dimension by placing an N before the number. (If the tool has no neck, you can skip this segment altogether.)

5 Enter the **end/corner** type or size. Include the leading zero for corner radii less than 1in. or 10mm. For any other end/corner type, just indicate the type: SQ = square end, BN = ball nose, CC = corner chamfer.

6 If the **overall length** you need is not the standard length for the combination of tool diameter, LOC and LBS, then enter the overall length **(OAL)** here. Indicate that this is an overall length by placing an L before the number. If you do not specify an overall length, we will assume it is standard length.

7 Enter the code for the **type of shank** you need (W = Weldon flat, WN = whistle notch, P = plain). If you do not specify a shank style, we will assume it is a plain shank.

	1 MODEL	2 TOOL DIAMETER	3 LENGTH OF CUT (LOC)	4 LENGTH BELOW SHANK (LBS)	5 END	6 OVERALL LENGTH	7 SHANK
INCH	M726	-0375	-0500	- N1125	-030	- L25	- W
METRIC	M706	- 060	- 009	- N020	-050	-L063	- W

Segments highlighted in white may be omitted.

Get finish performance to the sixth power.

See a video of Omega-6 M7 Series end mills in action at:

www.imcousa.com/content/videos

Test Omega-6 M7 Series tools for yourself. To order, or for more information:

In USA call **1-800-765-4626**

International **419-661-6313**

Fax **419-661-6314**

Visit **www.imcousa.com** by scanning this code with a QR code reader.

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